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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,005	09/09/2003	Yoshio Furuta	2562/71050/JPW/FHB	3507

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EXAMINER

HARRIS, KATRINA B

ART UNIT PAPER NUMBER

3747

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,005	Applicant(s) FURUTA ET AL.	
	Examiner Katrina B. Harris	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (JP 10-141516) in view of Peng et al. (5,116,020).

(Note : Applicant has admitted this reference as prior art in specification)

Kobayashi et al. discloses A gaseous fuel supply apparatus with a shut- off valve, which supplies gaseous fuel from a gaseous fuel tank storing gaseous fuel to a gaseous fuel combustion engine using gaseous fuel, comprising: a gaseous fuel flow unit which is communicated with the gaseous fuel tank and the gaseous fuel combustion engine and flows gaseous fuel between the gaseous fuel tank and the gaseous fuel combustion engine;

a shut-off valve which is provided in the gaseous fuel flow unit and selectively opens or closes a flow of the gaseous fuel in the gaseous fuel flow unit; and a gaseous fuel charge unit which is provided in the gaseous fuel flow unit between the gaseous fuel combustion engine and the shut-off valve and is used to charge the gaseous fuel from an outside into the gaseous fuel flow unit, the shut-off valve comprising:

a valve housing which includes a first connection port connected to a first part of the gaseous fuel flow unit, the first part being close to the gaseous fuel

tank, a second connection port connected to a second part of the gaseous fuel flow unit, the second part being close to the gaseous fuel engine and the gaseous fuel charge unit, and a valve chest provided between the first connection port and the second connection port and having a valve port communicating the first and second connection ports with each other; a seal member which surrounds the valve port on an inner surface of the valve chest of the valve housing; valve member which is provided in the valve housing and is movable between a closed position and open position, at the closed position the valve member being in contact with the seal member and closing the valve port of the valve chest and at the open position the valve member separating from the seal member and opening the valve port of the valve chest; and a valve member drive unit which drives the valve member by an electromagnetic force. (See Figures 1-4)

Kobayashi et al. does not disclose the seal. Peng et al. discloses a seal (75) (Figure 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the seal of Peng et al into the invention of Kobayashi et al. to improve the sealing efficiency of the system.

Regarding claim 5, Kobayashi et al discloses a filter (28) provided in at least one of the first connection port and second connection port.

Regarding claims 6, Kobayashi et al discloses a plunger (14) and solenoid coil (12).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (JP 10-141516) in view of Peng et al (5,116,020) further in view of

Wright (6,120,005) as applied above for claims 1-6 and 8-10. Wright teaches the use of two solenoid coils. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the solenoid valve of Kobayashi et al. by adding an additional coil as taught by Wright to improve the efficiency of the system.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

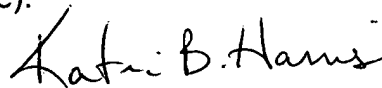
Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katrina B. Harris whose telephone number is 571-272-4842. The examiner can normally be reached on 6:00 AM -2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 571-272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Katrina B. Harris
Examiner
Art Unit 3747

KBH



Andrew M. Dollinar
Primary Examiner